PATENT

INSTITUT FRANÇAIS DU PETROLE

METHOD OF GENERATING A HYBRID GRID ALLOWING MODELLING OF A HETEROGENEOUS FORMATION CROSSED BY ONE OR MORE WELLS

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ABSTRACT

- Method of generating a hybrid grid allowing modelling of a heterogeneous formation crossed by one or more pipes such as, for example, an underground formation where one or more wells have been drilled, in order to form a representative model for example of fluid flows in this medium in accordance with a defined numerical pattern.

- The method essentially comprises associating a first structured grid for gridding of the heterogeneous medium respecting the discontinuities thereof with a second structured, radial type grid for gridding of a zone around each pipe or well, which allows to better respect particular constraints linked with flows in this zone, and transition non-structured grids that are interposed between the first grid and each second well grid. Various grids are combined, each with its own formation, representation and exploration methods, structured grids which are advantageous in that they facilitate control and comprehension of the reservoir images formed and more flexible non-structured grids for gridding of complex zones.

- Applications : hydrocarbon reservoir simulators for example.